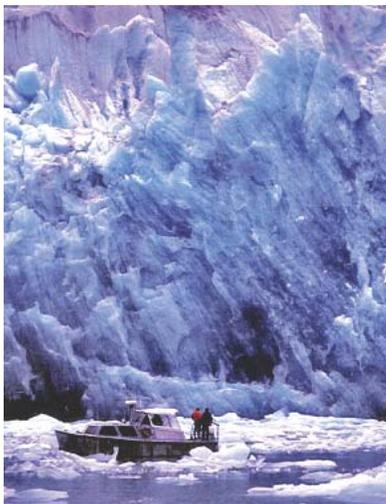


NOAA Ship RAINIER



The NOAA Ship RAINIER is named after Mt. Rainier, a massive volcanic cone rising 14,410 feet above sea level in Washington State. At the time the ship was commissioned, vessels of this class were named for geological features.



A survey launch collects data in the shallow ice-filled bays in Alaska

NOAA Ship *Rainier* is one of the most modern and productive survey platforms of its type in the world. The ship is designed and outfitted for conducting coastal hydrographic surveys in support of NOAA's nautical charting program. The ship supports high-precision on-shore surveys. *Rainier* primarily operates in Alaskan coastal waters and is homeported in Seattle, Washington.

Rainier is equipped with precision echo sounders, data acquisition and processing computers, Differential Global Positioning System (DGPS), sidescan sonar, and an assortment of bottom samplers, tide gauges and sound velocimeters. The ship is equipped with the Hydrochart II Intermediate Depth Swath Sounding System, and the ship's six survey launches are equipped with dual beam echo sounders and the HYPACK Hydrographic Data Acquisition System.

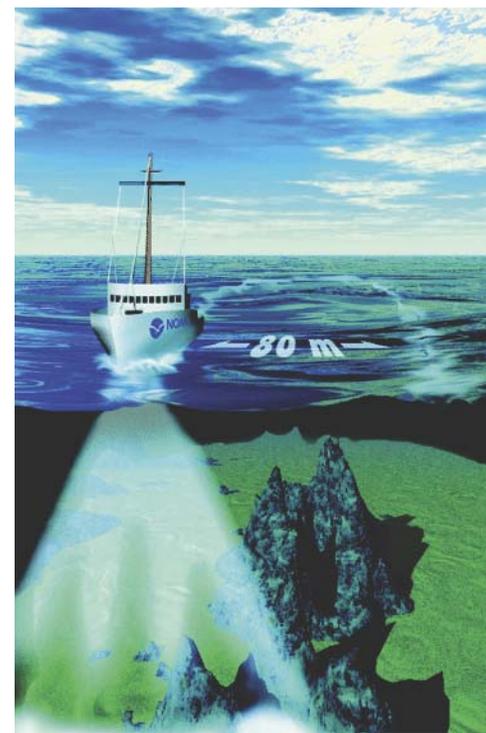
Three 19-foot small boats are used for diving and shore support operations, such as the installation and removal of tide gauge and DGPS control stations.

In 1998, three of the ship's launches were outfitted with multibeam systems that

are ideal for shallow-water applications where high-precision mapping is required. Multibeam systems allow the hydrographer to collect data with 100 percent area coverage.

The concurrent use of several multibeam systems provides the ability to cover larger survey areas in a field season. High-speed computers aboard *Rainier* process the massive amount of data collected. High-resolution, three-dimensional terrain models of the ocean floor are produced. Using the picture-like images of the bottom, the hydrographer can quickly analyze the bottom and determine the dangers to navigation.

Scientists can use the three-dimensional images to determine more accurately the geologic processes that created and are changing the shape of the bottom.



Multibeam equipment enables wider and more detailed coverage

Ship Specifications

Length: 231 ft.
Breadth: 42 ft.
Draft: 14.3 ft.
Hull: Welded steel, ice strengthened
Displacement: 1,800 tons
Cruising Speed: 12 knots
Range: 5,898 nm
Endurance: 22 days
Hull Number: S221
Call Letters: WTEF
Commissioned Officers: 10
Licensed Engineers: 4
Crew: 35
Scientists: 4
Launched: March 1967
Delivered: April 1968
Commissioned: October 1968
Builder: Aerojet-General Shipyards, Jacksonville, FL
Designer: Maritime Administration



Field survey operations include installing benchmarks, tide gauges and GPS stations

NOAA Marine and Aviation Operations

Since NOAA's beginning, NOAA ships and aircraft have played a critical role in the collection of its oceanographic, atmospheric, hydrographic, fisheries and coastal data. This fleet of platforms is managed and operated by NOAA Marine and Aviation Operations (NMAO), an office made up of civilians and officers of the NOAA Commissioned Corps, the Nation's seventh service. In addition to research and monitoring activities critical to NOAA's mission, NOAA ships and aircraft provide immediate response capabilities for unpredictable events. Most recently, NOAA aircraft provided support to the World Trade Center and Pentagon recovery and clean-up efforts by mapping the wreckage using remote-sensing technology. NOAA survey ships found the wreckage of EgyptAir Flight 990, TWA Flight 800 and John F. Kennedy Jr.'s aircraft. Our ships, aircraft and personnel have also conducted damage assessments after hurricanes and major oil spills such as the *Exxon Valdez*, Persian Gulf War and *New Carissa*.

NOAA's fleet of research and survey ships is the largest fleet of federal research ships in the Nation. The fleet ranges from large oceanographic research vessels capable of exploring the world's deepest ocean, to smaller ships responsible for charting the shallow bays and inlets of the United States. The fleet supports a wide range of marine activities, including fisheries research, nautical charting and mapping, and ocean and climate studies. Many of NOAA's research vessels are unique in their ability to conduct scientific research.

NOAA's fleet of fixed-wing aircraft and helicopters operate throughout the world, providing a wide range of capabilities, including hurricane prediction research, marine mammal and fisheries assessment, and coastal mapping. NOAA aircraft are modified to carry scientists and specialized instrument packages to conduct research for NOAA's missions.

NOAA Commissioned Officer Corps

The NOAA Corps is one of the seven uniformed services of the United States, composed of commissioned officers who provide NOAA with an important blend of operational, management, and technical skills that support the agency's science and surveying programs at sea, in the air, and ashore. NOAA Corps officers, in addition to managing and operating ships and aircraft, are also scientists and engineers. Corps officers serve in NOAA's research laboratories and program offices throughout the Nation and in remote locations around the world; for example, an officer serves as station chief at the South Pole, Antarctica.

About NOAA

NOAA conducts research and gathers data about the global oceans, atmosphere, space, and sun, and applies this knowledge to science and service that touch the lives of all Americans.

NOAA warns of dangerous weather, charts our seas and skies, guides our use and protection of ocean and coastal resources, and conducts research to improve our understanding and stewardship of the environment which sustains us all.

A Commerce Department agency, NOAA provides these services through five major divisions: the National Weather Service, the National Ocean Service, the National Marine Fisheries Service, the National Environmental Satellite, Data and Information Service, and Office of Oceanic and Atmospheric Research; and numerous special program offices. More information about NOAA can be found at <http://www.noaa.gov>

Visit the ship's web site at www.moc.noaa.gov/ra/
For more information, contact NMAO at 301-713-1045
or visit our web site at www.nmao.noaa.gov

